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Floral Rambles.—No. 1. Colorado, and the Rocky Mountains.

BY THE EDITOR.

BEAUTIFUL as are our home gardens, with their borders, parterres, beds, and hanging or creeping greenery, yet it always does one good to step for once out of home confines, and take a good, enjoyable and refreshing look at some of the grand *natural flower gardens*, provided by mother Nature, in far-off, out-of-the-way places, decorated in the most profuse style by wild children of the Flora, and brilliant with the most gorgeous colors.

There remained in my mind a sweet and lingering memory of the really enjoyable days we spent last year in our memorable and delicious excursion through Colorado. Like a dream of Persian gardens, and odors of perfumed breezes from Araby the Blest, it came often, and hovered around; and this summer, resisting not this temptation, nor repressing enthusiastic longings for the same old mountain scenes, and beautiful vistas of park or canon scenery, the writer was lured westward.

The season was far more favorable this year for the flower lover, or the scenery admirer, than last year—more rain had fallen, and scarcely a day passed in some localities, but shared its regular mid afternoon showers.

Pike's Peak itself sent down some roaring gusts; and thunderstorms of terrific lightning, with skies of inky blackness, and rushing rain, played many a grand natural theatrical act before the eyes of astonished hotel guests. The mountains were clothed with snow deeper than ever, and afforded a most sublime vision. The streams were all full, and irrigating ditches were overflowed, while the entire plains for miles out were covered with the greenest of grasses, and farmers were happy with abundance of food. Last year the contrast to this was remarkable. No snow, few streams, no rain, and a country completely dried and sere.

This year the plains were lovely in their green drapery, but the hills were unusually resplendent with floral bloom, revealing glimpses of square acres of brilliant flowers. I could not name them all, only the most familiar. *Penstemons* formed a carpet by themselves, here and there interrupted by a stump or a fallen tree, over which skipped dozens of lively little squirrels. Then followed a 100 acre farm of *Indian Pinks*, growing so luxuriant I could hardly believe they were the same as my little acquaintances of last year, then scarcely six inches high. As I remember them last August, they bore only a neat straight stem, surmounted with a petaled cup of gorgeous crimson, opened upward to the sky, the whole within six inches height. This year I saw the same flower growing twice and three times this height, and instead of but one solid, well-formed flower, the entire upper portion of the stem is a blaze of scarlet, for inches up and down. The very leaves, long and narrow, are crimson, and, indeed, if I can believe my sight, the entire plant has no flower, for its petals are its leaves, and these all gorgeously colored. Toward the top of the stem these leaves gather together in a concentrated series of rings, and bursting wide open when fully colored and well developed, they appear to form a brilliant flower. Citizens tell me here that this plant is an almost constant bloomer, remaining for months in full bloom. It begins in June, grows brighter in July, and fades in August. As fast as the leaves grow on the lower part of the stalk, they, too, turn crimson, and remain permanent in color. The latter part of June finds them much the most brilliant in display; often acres of the prairie grass are covered with myriads of their straight stems and scarlet tips, for miles on either hand. No plant or flower was so well remembered by the ladies as this, and when gathered together as a bouquet, the colors would rival those of the cultivated Gladiolus. They are often seen growing in clumps of two or three around one footstalk, and as the plant is a parasite, its roots living upon those of some other plant below the surface of the ground, it is difficult if not impossible to cultivate them successfully in our home gardens, unless they are transplanted each plant in a sod by itself.

Going further into the mountains, and especially near the mining districts, flowers are less frequently found; the surface of the soil is too rocky and rugged.

I engaged a faithful pony one morning and sauntered beyond Georgetown towards the top of Gray's Peak. Just on the edge of some timber land, lately cleared, I saw the beautiful blue clustered blossom of the *Aquilegia*, or *Rocky Mountain Columbine*. Such vigor of growth and thrift of habit! Here, at 9,000 feet elevation, where naturally one would expect stunted vegetation, it was as pure in color and vigorous in growth as the best I had seen in the garden of friend Hoopes, in Westchester, Pa. It seemed like meeting an old friend, and if I did not exactly kiss it, I at least stopped my pony, made a button-hole bouquet of some flower sprigs, and drank a delicious draught of water from a spring whose water rippled through the woodland and glided close through this wild garden.

I often saw masses of them together, and for three or four miles they seemed to be constantly in sight. As I ascended higher up the Peak they ceased, and at 10,000 feet were gone entirely. I never saw a flower above that elevation. Grass grows at the height of 13,000 feet, and timber about 12,000. I remember last year finding strips of grass and clusters of Gentians snuggling close together by the side

of the rocks within 300 feet of the summit of Pike's Peak, which was 14,375 feet high.

Although I had ascended so near to the top of Gray's Peak that one more hour would have enabled me to scale its summit, yet a sudden storm and pattering rain forced me to turn my steed and haste for shelter. I found it in a pleasant cabin of a family of English miners. The good lady was herself owner of a $5,000 lode, and each of the men was actually or prospectively rich in same manner.

Happening to open my note book, a pretty little card chromo of a Moss Rose, one of Prang's nicest, showed its face. Her eye caught it, and she sprang to look at it, and—well, the result may be told—she got it, and kept it, but I came away with a dinner, and a piece of her silver mine.

Her delight with the climate was great,—so pure, so healthful, so invigorating. Snows never frightened; in fact, only a week before I was there a snow-bank six feet deep extended across the road just below their door,—and my own horse crossed many a snowy place in the road above them.

The good woman's delight at flowers is an index to the tastes of the entire people of the territory. I do not think I ever saw a community of so many different occupations so delightedly interested in flowers. In fact, every house in Georgetown has a window garden. Stores, hotels and private residences, all showed the universal enthusiasm.

I saw many exquisite hanging baskets, filled with native plants. Indeed, as I now remember, most of these indoor gardens were filled with wild plants and flowers, and not one of our common cultivated sorts. So much, then, for taste. You need not be surprised, then, to find there an order-loving community. Gold and silver were in the mountains, but better golden and silver thoughts were in the hearts of these flower lovers. Bless their memory!

Coming back on the stage coach, I caught glimpses of scenery, spread out in most ravishing style. My breath, even now, I hold, as I think of some glorious vista, or entrancing view from the top of a very steep hill. Before and behind there was a panorama of mingled pines, mountains, snow and ravines, equal to the best ever Bierstadt thought of. No American mountain scenery can compare with this. It is too grand for description.

From Denver I went southward to Colorado Springs. Prof. Porter, of Lafayette College, Easton, Pa., was one of our party—which, by the way, was organized in honor of Hon. Jno. Scott, of Pa.—and friends, who were guests of the Narrow Gauge R. R. An elegant excursion car was provided for the company, and the sensations of a fine ride over so famous a route were well experienced.

Cars never carried more precious freight than then, for the professor—almost ubiquitous, everywhere at once in search of floral treasure—not only astonished us with the most overwhelming of bouquets, gathered from the prairies wherever we stopped, but also with botanical names built up in the most gigantic style.

Think, ye stay-at-homes, of a ride for six hours with the Rocky Mountains on one side of you, their summits capped with snow and gilded with the unreserved splendor of the sun; then look between you and them and see peaceful valleys and natural parks, the home of thrifty cattle or happy ranchmens' cabins; then to the left of you,

and in fact all around you, a paradise of flowers. Never shall I forget one sweet spot, just before reaching the top of the divide, 40 miles from Denver. We stopped in the midst of a prairie thickly clustered with the *Gilia*.

The startling, blazing crimson of the Gladiolus was but an ineffectual comparison to the splendor of the colors of these *native floral maidens*. Rearing their tall stems upward 2½ feet, surmounted with the dazzling crimson, pink and white bells, and millions of them in sight, hardly permitting room for the foot to rest without breaking one—it was indeed a "*joy never to be forgot*."

Acres of Sun Flowers were strung along our track. Then, too, we saw the *Mexican Poppy*, with its pure white, delicate-leaved blossom, upward turned as if to drink in the exhilarating sunlight; the Ipomœa, or Rocky Mountain Creeping Convolvulus, hung for us its blue, bell-like blossoms; myriads of little Prairie Roses blushed with their light pink bloom; Lupines erected their stately blue heads, and scores of others, till we were fairly bewildered. At last the Professor capped the climax by the discovery of a Cactus with brilliant red blossom. The Professor was now a hero, equal to any occasion, and the admiration of the party.

A sage schoolmistress was gathering specimens, trying to name them. Unfortunately she became mystified. Her botany flew out of her head, and the good-hearted Professor essayed to help her. A long, awkward grass came up for discussion. She called it Gamma, but the Professor electrified the train full of passengers with laughter when in a solemn way (and plenty of time to speak it in) he rolled out slowly this ponderous name: *Plantago Patagonicum*. 'Twas enough for one day. Ere we recovered from our amusement the train brought us in sight of Colorado Springs.

Imagine, then, some of the delights of floral rambles and botanizing among these Rocky Mountains. Perhaps the botanist *now* coming may not find anything *new*, where so many have gleaned the field before, but he will always be entranced with the profusion of the flowers, the unusual brilliancy of colors, the grandeur of the mountains, the ascent of the peaks, the sublime, inspiring atmosphere, the exhilaration of spirits, and, best of all, a grand appetite, with invigorated bodily powers.

Colorado Springs nestles at the foot of Pike's Peak, a beautiful home for any invalid. Standing on the plains of Fountain Colony, six miles away, where Gen. Cameron has gathered 1,000 inhabitants in one year, there is revealed to you the very best glimpse of the mountain. 'Tis a picture of boldness and variety of color unrivaled in America.

Go, then, to Colorado, and enjoy, besides the flowers, its canons, its scenery, and life-giving atmosphere. One fact seemed curious to me. At elevations of 8,000 feet, I found better lands, a better climate, the temperature was more equable, grass greener, almost perennial in growth, and cattle grazing the year round. Flowers, too, were more profuse and brilliant. Above this, the air is too cold and forbidding. Below this brings you down to the warm plains, uncertain showers and dry grasses.

At 6,000 to 8,000 feet, I noticed the *Euphorbia variegata* in full bloom, well opened out, when for hundreds of miles, the week previous, I rode through central and western Kansas, 4,000 to 5,000 feet lower, yet it had not opened one-fourth of its leaves.

The flowers of Colorado are of course numerous, but a list of twelve to fifteen will include the most brilliant kinds. And of them all, dearly to be loved, are the Indian Pink, Columbine and Gilia. H. T. W.

Group of New and Rare Plants.

AT the recent show of the Royal Horticultural Society, at Nottingham, England, there was exhibited a beautiful group of plants, by Messrs. Veitch, the well-known English florists, which, in the words of the *Journal of Horticulture*, were remarkable not merely for the beauty of their arrangement, but also the individual beauty of the plants composing it, and the perfection of culture which they displayed. This group, we figure now in our frontispiece this month, and the plants are so distinctly represented, any one familiar with greenhouse collections will recognize all the specimens. Palms and Ferns are mingled with Marantas, Caladiums, Dracænas, Hydrangeas, and others of tropical foliage, or beautiful blossom. The disposition of the group not only shows compactness, but also a very fine chance for display.

Ornamental Grasses.

THIS topic is so seldom touched upon by horticultural writers, that we are glad to welcome information from any source. Dried Grasses will always be among the most fashionable and elegant of parlor or sitting-room decorations for the homes of our country citizens. They are proscribed from city drawing-rooms, with how much reason, we know not, yet without good sense. Mr. F. D. Horner in the *Journal of Horticulture*, revives the interest in this class of ornamental plants with timely and pleasant advice:

How and when to sow the seed are, as might be expected, matters of importance. Never sow it thickly, for there is often some feature of beauty in the habit of a Grass only developed by virtue of allowing room for free and unentangled growth. All this is lost, and more also, by a Mustard-and-Cress style of sowing; just as the beauty, bloom, and duration of annuals are provided against by dooming them to spindle in dense rings round their little central stick!

Seeds of the hardy Grasses may be either raised in pots, and without being drawn, or sown at once in the open ground, the utmost care being taken that the germinating seeds be never allowed to get dried. By sowing the seed upon well-broken earth, and afterwards gently raking it over, I have found enough seeds covered lightly to make a thick-enough crop. The best time to sow the hardy Grasses will be found to vary for different kinds.

A finer development of some will be obtained by sowing the seed as soon as it is ripe, in June or July. The young plants will appear during a period of wet weather, will get stocky by the autumn, stand the winter with the Wheat, have roots below March dust, and bloom before they can well be burnt-up. I say burnt-up advisedly;

for Grasses want something of sunshine and open air, and should not be grown in dark places which are all well enough for Ferns and Mosses.

A few very pretty Grasses that come stronger when allowed to stand the winter, are Agrostis nebulosa and A. pulchella, Bromus brizæformis and B. lanuginosus, Lagurus ovatus, Hordeum jubatum (perennial), and Hordeum myuroides.

Other commendable sorts which have escaped in mild winters, but certainly done well for spring sowing, are Brizopyrum siculum (most bonnie), Briza maxima and B. minima, and Agrostis laxiflora. Phalaris paradoxa, P. minor, and even P. canariensis may be used, but should not be overgrown. The last named is the familiar Canary seed, and a bunch of the ripe ears which I possess is very striking among the more solid ornamentals. The species of Chloris, Eleusine, Panicum, Pennisetum, and Sorghum are but half-hardy, and possess more or less a tropical luxuriance of growth. I have to treat them to a hotbed until the end of May, when they go out to some sunny spot under a south wall. The varieties of Chloris are all very curious, the ears consisting of a number of radiating arms in various modifications. Chloris radiata (when true), cucullata, and truncata are amongst the most distinct that I have met with. To be reckoned as a little gem among half-hardy Grasses is Stipa elegantissima. Each awned grain stands upon a delicately-feathered footstalk, the form of the ear resembling that of some of the Oat Grasses.

The time to gather Grasses for ornamental purposes is a matter of great importance. Some sorts dry to the best advantage when cut almost before they bloom at all; for at the least development beyond the flowering stage they will, when dry, fall away at a touch. The Barley Grasses (Hordeum) and the Pennisetums should be taken even before the heads are quite out of the sheath-blades. Others are best preserved when cut as the inflorescence expands, say half along the ears. This applies to Bromus brizæformis and lanuginosus, Brizopyrum siculum, and all the Brizas from maxima to minima. The Chloris, Eleusine, and some of the Panicum species, should not stand beyond their bloom. If cut too soon these would not preserve their form nor fully show it, and if left beyond would too easily fall to pieces. Some Grasses, again, are much more beautiful if left to perfect their seed before being cut, otherwise the heads will more or less shrink up and close. This would be so with Agrostis nebulosa and pulchella, while Lagurus ovatus may, with advantage, be also left till ripe; so may some of the sorts of Panicum and Sorghum, for they bear grain distinct enough to form one feature of attractiveness.

As to bleaching dried Grasses after the manner of skeleton leaves and seed-pods, the only method I ever tried was that of steeping them for a time in a solution of chloride of lime until the tissues seemed whitened, and were so when dry. The time required has seemed to vary, but care must be taken not to overdo the specimens, or they will be injured in the process. I have no doubt that, like myself, any one experimenting will soon learn to pick his way after a few of those little troubles that make one wise.

I have named but a few out of the Grasses I have grown, but these are abiding favorites; and although I have beauties far more rich and rare among my Auriculas and other florists' flowers, still the lowly graces of the family of the Grasses have a winsomeness of their own that does not weary.

Floral Notes.

Arrangement of Cut Flowers.

The London *Gardener* says that of all the various mistakes made by persons in arranging flowers, the commonest is that of putting too many into a vase; and next to that, is the mistake of putting too great a variety of colors into one bouquet. Every flower in a group should be clearly distinguishable and determinable without pulling the nosegay to pieces; the calyx of a clove pink should never be hid by being plunged into the head of white phlox, however well the colors may look. Sweet peas never look so well in the hands as they do on the boughs over which they climb, because they cannot be carried without crowding them; but put them lightly into a vase with an equal number of mignonette; or, rather, ornament a vase half full of mignonette, with a few blooms of sweet peas, and you get a charming effect, because you follow the natural arrangement by avoiding crowding of the blooms, and putting them with the green foliage which they want to set them off. Few people are aware until they try it, how easy it is to spoil such a pleasing combination as this; a piece of calceolaria, scarlet geranium, or blue salvia, would ruin it effectually. Such decided colors as these require to be grouped in another vase, and should not even be placed on the same table with sweet peas. They also require a much larger preponderance of foliage than is wanted by flowers of more delicate colors. It is unquestionably difficult to resist the temptation of "just putting in" this or that flower, because "it is such a beauty;" a beauty it may be—and so may be an apricot—but it would be out of place in a basin of green pea soup! There is at least one proper place for every flower; then let every flower be in its proper place.

Ornamental Flowering Shrubs.

Application is often made by amateurs and novices in rural ornament for a list of Shrubs arranged according to the time of blooming. Such a list, we notice, has been recently published by the *American Rural Home*, and here quote it. We do not suppose the list is complete, but it comprises most of the sorts generally planted:

SHRUBS BLOOMING IN APRIL.

Azalea (nudiflora).—This early blooming shrub is found growing wild in swamps, and is familiarly known as Honeysuckle. It is cultivated by nurserymen, and from its profusion of curious, pink flowers blooming so very early, is worthy a place in the lawn.

Mezereum, Pink—A pretty little shrub with pink flowers, that show themselves very early.

Mezereum, White.—A variety with white flowers.

The shrubs blooming in April are not numerous or *very* beautiful, but almost any flowers are welcome so early in spring.

SHRUBS BLOOMING IN MAY.

We have a greater variety flowering in this month, some unsurpassed in beauty.

Almond, Dwarf Double-flowering—A long acquaintance does not lead us to reject this attractive little shrub, covered as it is, a large portion of the month, with a profusion of double rosy blossoms. A sub-variety has white blossoms.

Double Crimson Flowering Currant—Sometimes called Missouri Currant, has large, brilliant double red flowers that make it desirable as an ornament.

Forsythia viridissima.—Blooms very early in May—has bright yellow blossoms.

Honeysuckle, Red Tartarian.—We can hardly afford to spare this old friend from our yards. It is a very vigorous, strong-growing shrub, bearing bright pink flowers.

Lilac.—There are now in cultivation a number of varieties of the Lilac, with different shades of purple and white blossoms, among which Persian Purple and Persian White are most desirable.

Magnolia.—Some varieties of the Magnolia are so dwarf that they may be properly classed among the shrubs. Chinese Purple and Chinese Red are finest.

Japan Quince, Scarlet.—The varieties of our old favorite, Japan Quince, or Cydonia Japonica, have been multiplied, but we are not certain that any surpasses in beauty the old Scarlet.

Spiræas.—There are numerous varieties of this beautiful shrub. Among those flowering in May.

Double Flowering Plum-leaved, and Reevesii flora pleno are very beautiful.

ORNAMENTAL SHRUBS BLOOMING IN JUNE.

Purple-Leaved Berberry.—This shrub is beautiful in foliage, flowers and fruit.

Calycanthus, or Sweet-scented Shrub is more noted for its fragrance and beauty of foliage than for flowers.

Deutzias.—There are many varieties of this shrub, all attractive, from which we select the following:

D. Crenata, flora pleno.—Many consider this the finest shrub cultivated. Flowers double, white, tinged with rose.

D. Rough-leaved (scabra).—A strong grower, bearing very freely, single, white flowers.

D. Slender-branched (gracilis).—A slender, dwarf grower, but bears in great profusion, single, pure white flowers.

Syringa, or Mock Orange (Philadelphus).—The merits of the numerous varieties of this shrub are well represented in the Garland (coronarius), a variety with pure white, intensely fragrant flowers.

Viburnum (Snow-ball).—A familiar shrub, with large, globular clusters of white flowers, resembling snow-balls.

Weigela.—There are now some fifteen or sixteen varieties of this hardy, vigorous, free blooming shrub on nurserymen's catalogues, among which we note:

W. Alba.—Flowers white, changing to a faint blush.

W. Arborea Grandiflora.—Very large foliage, flowers pale yellow, changing to pale rose.

W. Rose-Colored (rosea).—A very profuse bloomer—flowers rose-colored, gradually fading to pale pink.

W. Variegated-Leaved—Bright pink flowers—leaves bordered with yellowish white.

We have named here twenty-six shrubs blossoming during the months of April, May and June, from which the reader can make selections that would render the grounds surrounding his home beautiful, attractive and fragrant.

Notes from Foreign Journals.

The *Garden* says the white *Spiræa ariæfolia* is the most beautiful hardy shrub now in flower in the gardens around London. "Its elegant flowers seen among our common shrubs, seem like tossed spray on a sunny sea."

One of the finest flowers of the season is the *Dicentra chrysantha*, a herbaceous plant, which is hardy and covered with golden yellow flowers, that contrast beautifully with its glaucous green foliage.

A hyacinth, the *Hyacinthus candicans*, lately introduced into England from South Africa, bears a flower stem nearly three feet high, decorated with a score of massive, pure white pendent bells.

The *Revue Horticole* commends seven varieties of the Maple from Japan, which have been introduced and found perfectly hardy in the vicinity of Paris. The beauty and elegance of the Japanese trees are beyond description.

Rose Show.—William Paul, of London, the famous rose grower, sent three thousand rose plants in pots, and in bloom, to an exhibition he got up of his own during the last week in May. The "lion" among the roses, was the new one named Princess Beatrice, a variety which it is said will take a high place with exhibitors on account of its fine form and great substance—not bad qualities in a princess.

Bignonia Chamberlaynii.

A correspondent of the *Virginia Farmer* indorses a species of the trumpet creeper which is little known:

"The *Bignonia Chamberlaynii*, just in bloom with me now, is a large trumpet-shaped flower, bright yellow, showing off to advantage on its fine glossy foliage. This is deciduous, but in other respects the vine is similar in habit with the cross vine (*B. Capreolata*), but more refined in its appearance. As it is of tropical origin, I planted it (last year) so as to be sheltered from the north wind, hardly expecting it to withstand the repeated severe frosts. It proved, however, perfectly hardy, only the tips of the young shoots having been frost bitten. This is decidedly one of the handsomest climbers, and the only one producing clusters of the most brilliant golden yellow. A great acquisition."

The editor of the *Farmer*, in a note upon this plant, says:

"Some years ago our lamented friend Mr. Wm. N. White, of Athens, sent us this plant with a note, stating it to be an unnamed species originated by Dr. Ward, from seeds sent to him from Brazil. In Athens, where it was planted against a wall, it proved half hardy. We are happy to see it succeed so well here. Another report from Middle Georgia states that a plant set out some four years ago has produced for the past two years an immense mass of flowers, which formed a most brilliant sight. When our plant first produced flowers, we recognized an old acquaintance of European greenhouses, though now-a-days it is seldom met with."

Bedding Plants.

N. Ohmer, at the meeting of the Mont. Horticultural Society, spoke of the necessity of thorough cultivation in preparation for bedding plants. The beds should be spaded deeply, and if thrown out deep enough, had found that to fill in broken

pieces of stones and brickbats in the bottom to assist in drainage, was followed with good results. The soil should be made rich, with well rotted manure. He grows only one kind of plants in the same bed, as the effect is much better than when planted promiscuously. He mulches carefully, and especially so for roses. The best mulch is made from well rotted cornstalks, hops and leaves. This he piles around his roses late in the fall, covering the base of the plant well; in the spring the mulch is leveled down and spread over the bed to the depth of two inches. He also practices planting spring flowering bulbs among his roses. The bulbs come and flower and are ready to disappear by the time the roses are ready to bloom.

Mr. Steele—Among the different varieties of Geraniums, the scarlet is the best for bedding purposes and continuous blooming.

J. H. W. Mumma—Spoke of the importance of mulching flower beds.

Wm. Langstreth cautioned members against the use of any except well fermented or decomposed mulches. Hops, saw-dust and the like, unless in good condition, will ferment in the beds and burn up the plants.

Mr. Kiersted inquired which of the mulches were freest from objection on account of color.

N. Ohmer replied that any of the mulches spoken of, if in the proper condition for use, would be dark colored and unobjectionable.

R. P. Brown remarked, that to succeed best in growing flowers, but few varieties should be used. A good bed of Verbenas, one of Petunias, Geraniums and Heliotropes, is much more satisfactory than an attempt at a great variety.

Powdered Coal for Unhealthy Plants.

In a communication addressed to the *Revue Horticole*, the writer states that he purchased a very fine Rose bush, full of buds, and after anxiously awaiting their maturing, was greatly disappointed when this took place to find the flowers small, insignificant in appearance, and of a dull, faded color. Incited by the suggestion of a friend, he then tried the experiment of filling in the top of the pot around the bush to the depth of half an inch with finely pulverized stone-coal. In the course of a few days he was astonished at seeing the roses assume a beautiful red hue, as brilliant and lively as he could desire.

He tried the same experiment upon a pot of Petunias, and soon after all the pale and indefinite colored ones became of a bright red or lilac, and the white Petunias were variegated with beautiful red stripes. Some of the lilac Petunias became a fine dark blue. Other flowers experienced similar alterations; those of a yellow color alone remained insensible to the influence of the coal.

Sowing Lily Seeds.

A correspondent of the *Country Gentleman*, in writing upon sowing lily seeds, says:

As a hybridizer, I have occasion to make frequent sowings of lily seed, and no means which I have ever employed for promoting its timely germination has availed me much. My present practice is to sow the seeds as soon as ripe in frames, or in the open ground, in boxes with open bottoms, across which a few laths are nailed. The boxes being plunged in the soil, these laths prevent their being thrown out by the frost, allow the moisture to rise from below, thus obviating the necessity of

watering, which is liable in this instance to do more injury than good, permit the roots to feed in the fertile soil placed under the boxes, and hold in place the soil in the boxes, if it is ever necessary to move them. The frames or boxes are supplied with light sandy soil, with which leaf mould or peat has been freely mixed. Though a few plants may appear during the next Summer after sowing, I do not look for the seed to start till the second Spring, eighteen or twenty months after sowing. The little bulbs should remain undisturbed two years or more.

Night-Blooming Cereus.

A magnificent specimen of the night-blooming *Cereus*, was exhibited in all its beauty at Edgar Sanders' greenhouses at Lake View, near Chicago, lately. At eight o'clock one flower opened, and subsequently two more. They remained open for only eight hours and then closed. Mr. Sanders kept open house for the convenience of all who desired to see and enjoy the fragrance of the beautiful plant.

Brackets for Plants.

Some plants look so well against the wall of a greenhouse or conservatory that it is a wonder brackets are not in more general use than they are. It is not necessary that they should be so elaborate as that which supports the fine-leaved Begonia; this is of course a matter to be determined according to individual taste and means. For growing plants in, the least ornamental form is just as good as any other. The simplest kind of bracket that I ever saw was a flower-pot with one side flattened, and having a hole near the top of the flat side, so that it might hang upon a nail in the wall. Some years ago I remember seeing a collection of Ferns grow against the wall of a greenhouse in these flat-sided pots, which were hanging thickly all over the wall; and the effect of the drooping fronds, which in many instances quite hid the pots, was exceedingly pretty. I see no reason why Mesembryanthemums should not be grown in such pots, by which means the wall of a conservatory might be covered with their blooms; and those who would like to see ribbon beds executed upon a wall, might be able with this genus alone to produce some curious effects. Wall gardening, in short, is a subject to which, as yet, little attention has been paid; but if well carried out it would doubtless be productive of the very best results.—*W. T. in Garden.*

A Floral Ornament for the Drawing-Room.

Last August a lady friend of mine gathered a handful of the world-renowned flowers of forget-me-not, *Myosotis palustris*, and to preserve them as long a period as possible they were put in a large soup-plate filled with rain-water. The flowers were placed near the window, so as to enjoy the advantages resulting from an abundance of light and air, and the water was replenished when needful. In a surprisingly short space of time—three weeks, I believe—white thread-like roots were emitted from the portion of of the flower-stalks in the water, and they ultimately formed a thick net-work over the plate. The flowers remained quite fresh, excepting a few of the most advanced when gathered, and, as soon as the roots began to run in the water, the buds began to expand, to take the place of those which faded, and up to the middle of November the bouquet—if it may be so called—was a dense mass of flowers, and a more beautiful or chaste

ornament for the indoor apartment cannot be imagined.—*Thomas W. Trussler, in "Gardeners' Magazine."*

Sweet Scented Flowers.

Many cultivators of ornamental plants desire especially to raise those which produce fragrant odor, particularly for bouquets, stands and flower vases. In answer to occasional inquiries, we name the following sweet scented flowers, to which some of our readers may add others: Sweet violet, hyacinth, heliotrope, pinks, sweet-scented candytuft, woodbine, sweet brier, cabbage rose, tea roses, white lily, sweet alyssum, mignionette, sweet pea, carnation, sweet William, and several sweet scented, perpetual roses. Here are enough to fill a room or garden with perfumes rivaling the "odors from the spicy shores of Araby the blest," if well managed and cultivated.—*Country Gentleman.*

Artemisia Stellaris.

Edgar Sanders says that this is likely to come into pretty general use for ribbon work, or bordering to other plants

Although not so fine as the Centaurea Candidissima, it is far easier propagated, hence can be sold cheaper, indeed as cheap as any bedding plant, providing there is demand enough to grow it in quantity, which we think after a time there will be.

To those who grow their own plants, we say, go into this if you want quantity, as it roots as ready as a Verbena, and furnishes an abundance of shoots to cut from.

It bears the knife well in summer, hence can be kept to any height desired below its natural growth, which does not exceed nine inches or a foot high.

The leaves have a very fair silvery shade, more so than the old dusty miller, and as it is of a trailing nature if left alone, answers well for planting in hanging baskets, vases, etc., forming a pretty contrast to other foliage.

Hydrangea Paniculata.

EDITOR OF HORTICULTURIST—In your journal for June, page 184, you ask who is growing Hydrangea Paniculata, etc., from which I infer that you have not seen the flower. I send you a panicle that you may judge for yourself whether it justifies all that has been said of it. Imagine fifty to a hundred and over of this on a single bush, and I think you will conclude that it is one of the finest shrubs "of recent introduction." How high it will grow I cannot add, as with me it has had to pay tribute in another direction. It is truly a magnificent shrub for lawn decoration, and remains longer in bloom than anything I know of in the line.

Stelton Nurseries, N. J. G. W. THOMPSON.

Double Flowers—The Ten Weeks Stock.

In an invoice of tree and other seeds which I imported from Peter Smith, of Hamburg, some three years ago, was a lot of ten weeks stock. I planted a sample of the several varieties; a large proportion of them came single. This spring I scattered the balance (from the same packages) in a box in the greenhouse, hardly expecting it to grow. The blooms are nearly all double. Is this an ordinary occurrence? I do not remember having seen it so stated. G. W. T.

New Brunswick, N. J.

THE WESTERN HORTICULTURIST
MARK MILLER EDITOR DES MOINES, IOWA

The Codling Moth—Cloth Bands.

BY DR. JAMES WEED, MUSCATINE, IOWA.

MORE than thirty years ago, three town lots here were planted to apple, pear and plum trees. Most of them were large trees, and soon commenced bearing, and for a few years no signs of the codling moth were seen, but after their first appearance, not more than three or four years had elapsed before not an apple or a pear could be found that was not worm-eaten.

Speculatively we queried whether every apple in the large orchard we were then planting would, in the future, become infested with this destructive apple-worm, as in the garden. Practically we are now able to say that up to this time, though in some seasons its depredations have been fearfully prevalent, diminishing the value of the crop very greatly, still we have always had a portion of the crop fair and unblemished. On this fact we base our hopes and muster courage to attack this enemy; for if there are not moths enough to deposit an egg in every apple, then every female moth destroyed will add two hundred apples to the whole number of sound ones, assuming that each moth lays two hundred eggs.

In 1868 we hit upon the use of our narrow cloth band (one or two inches wide, nailed to the tree at one end with an 8 oz. tack, the other end being brought around the tree and hitched upon the nail, so as to be easily unhitched and examined at intervals of ten days, or two weeks, the worms being destroyed with a knife as they appear in opening the band), which was applied to only a part of our trees, but with encouraging results. The summer of 1869 had so many rainy days that work fell behind so that we were unable to scrape the scales of old bark from our trees and put on the bands. In 1870 we put them upon most of the trees bearing fruit about the middle of June, and, as we have before stated, destroyed about 15,000 worms and pupæ. We think it was in the autumn of this year that we saw the first notice in print of the use of cloth bands—being, as described, five to ten inches wide and two or three times around the tree, fastened with a string—worms to be killed by taking off the bandages and immersing in hot water, or putting them through a clothes-wringer. In 1871 we effected a like wholesale slaughter with the general application of the narrow bands, experimenting with different materials. Old carpets being not always at hand, old bale-cloth being too loose and open, and new cloth too expensive, strips of old paper flour-sacks answered well; and this year we are trying strong roofing paper, which is cheap and promises to answer the purpose very well.

We are also trying tarred, felt and oiled paper, which, if not repulsive to the worms, will be about as cheap and more durable, answering for several years. Fifteen thousand apples must have been required in 1870 to breed the worms we killed under the bands, as it is seldom that more than one worm is found in an apple, and allowing 300 to a bushel, gives 50 bushels damaged or entirely ruined by these worms; and if we only captured one-half the worms in the orchard, the loss is increased to 100 bushels. Supposing one-half the worms destroyed to have been females, and one-half of these to have been of the first brood, they would have deposited in the late apples 750,000 eggs, thus damaging 2,750 bushels of the autumn and winter apples. Now suppose these eggs to have produced as many worms, and all to have passed the winter safely, they would, in the spring of 1871, have aggregated with the 7,500 of the late brood destroyed under the bands, 757,500 moths; but a large proportion of the late brood are destroyed in cider-making and other uses the apple is put to, and their number is also greatly lessened by birds, and often, perhaps, by the vicissitudes and inclemency of winter.

If a small crop of apples on 10,000 trees be estimated at one bushel per tree, or 3,000,000 of apples, it would require 15,000 female moths to deposit an egg in each one; of course a larger crop of ten bushels per tree would require 150,000 moths, but as, in our experience up to this time, they have never infested the entire crop, and as no more moths can exist in the spring than were bred in the previous crop, and have safely passed the winter, it is evident that the larger crop would have more than nine times more sound apples than the whole amount of the smaller crop.

If the large orchardist puts into constant practice a system of wholesale destruction, like the bands we use, it would seem that the moths coming from the small orchards in his vicinity could not cause him very great injury, but woe to the owner of 50 trees in the immediate vicinity of the mammoth plantation, if the latter is persistently neglected.

Fruit in Northern Iowa.—Nursery trees were somewhat damaged in this section the past winter. Wagoner's and Sweet June killed back; even Ben Davis one year old trees killed, but not to any very great extent. Orchard trees suffered considerable, many of the tenderer varieties damaged to such an extent that they will never recover. Trees were covered with bloom in the spring, but the bloom faded and left but few apples. Strawberries are almost an entire failure—Peak's Emperor, Downer, Agriculturist and Lennig's White killed entirely. Grape vines killed in some places in very sandy land; on clay land vines are looking splendid, and bid fair for a very heavy crop. Raspberries went through the winter with material damage; Davidson's Thornless and Clark slightly killed back; yet the bushes are loaded with fruit. The Philadelphia is one mass of green fruit and blossoms. Plums, a fair crop.

E. M. Nevins.

Nashua, Chickasaw Co., Iowa.

Failure of the Apple, Pear and Cherry in the West, 1872—Causes.

BY DR. WM. M. HOWSLEY, LEAVENWORTH, KANSAS.

PERHAPS no season since the settlement of the country west of the Mississippi, has combined a greater number of casualties to the fruit crop, than those brought to bear during the years of 1871 and '72. This is, especially, the case in Kansas and Missouri, and wherever the excessive rains of last November prevailed. The early portion of the growing season of 1871 was quite wet, continuing up to early August, causing the earlier ripening peaches to rot and fall from the tree, while the dryness which then came on, attended by extreme heat, caused the flesh of the later ripening ones to cleave to the seed, and thus become worthless. In this way the peach crop, which would otherwise have been abundant and fine, proved to be an almost entire failure. But the months of September and October were dry and of usual temperature, producing a fine effect upon the wood and fruit buds, toward ripening them for the next crop. Unfortunately, however, for our prospects for an abundant crop the next season, rain set in the early part of November, saturating the earth more thoroughly than it had been at any time during the preceding spring or summer. The young wood and fruit buds, which had, until this unusual wet weather, given such promise for the future, were filled with thin watery sap, which could not possibly, so late in the season, get into condition to meet *even* the ordinary approaches of the coming winter. In the above condition were the wood and fruit buds found, on the 19th of November, when the mercury suddenly ran down from 52 to 22 degrees above zero, and on the 22d of the month, down to 10, and on the 29th, to 3 degrees. At no time, with eleven exceptions, from the 19th of November to the last of March, did the mercury at sunrise, get above the freezing point. It was four times *below* zero.

In the above cases, the young wood and fruit buds, and the range of the mercury, were in direct antagonism to each other. What condition of things followed these conditions of the weather? One very remarkable condition of the trees followed, and was, very clearly, the result of these remarkable conditions of wood and weather, which was, the leaves, instead of being cast off, as they would have been from well ripened wood, remained attached to the trees, in such remarkable quantities, as to attract the notice of all observing fruit growers. While the dryness of the leaves caused them to be blown off by the winter's winds, the leaf stalks, in countless quantities, clung fast to the wood, until, in numerous instances, they were pushed off in the spring by the young growth. Peach trees were an exception to this general clinging of the leaves.

In consequence of the foregoing conditions of weather, of unripened young wood, of fruit buds, and of unusual attachment of the leaves during winter, we think we might very reasonably look, or at least account for the partial failure which has befallen the fruit crop the present season. A great number of trees, especially the apple and the pear, displayed a great diversity of diseased conditions at the blooming

time. Some trees showed no bloom at all, others showed but little, while others showed a sufficient quantity, but in many instances of sickly appearance. In many cases the blossoms seemed to be abortive, either in pistil or pollen; perhaps both. Those that set fruit, commence an untimely casting off at a very early day. Some trees casting off nearly or quite all they set. Those having a usual amount of bloom have, in many instances, cast off until the whole amount of the apples and pears left will not amount to more than a fourth of a crop, after the curculio and codlin moth have finished their work. Wherever these November rains and freezes prevailed, as far as we can learn, these disastrous results have followed, and are still operating up to this time of writing, July 10, 1872.

There are other consequences growing out of these November rains and freezes, which are results equally as clear, at least to our mind, as the partial failure of the apple and pear crop. A great many of the young twigs of the Angers Quince have blighted this spring, so soon as the sun got hot enough to have a telling influence upon sickly young wood. The young twigs of the apple also have shown considerable blight. So soon as the weather got sufficiently hot to act upon diseased wood, the young wood of many varieties of the apple, never heretofore affected, were badly blighted in June, and still continue to a considerable extent. We have also had blight in three varieties of pear trees, a thing which has never before happened on our place. The Stevens Genesee, the English Jargonel, and one, the name of which we do not know, have blighted this summer; the first quite freely; we think not dangerously, however, among our apples; varieties have blighted this year, which were never before affected, while those which blighted badly in previous seasons, have this season suffered but little; some of them not at all. If the connection between the rains, the condition of the young wood, the fruit buds, and the freezing of last November, furnish a clue to the failure of the fruit crop this summer—which we think they most clearly do—upon what principle are we to account for the blight, now, to some extent prevailing? We hold that all are inseparably connected as cause and effect.

The foregoing results cannot be justly attributed to the intense and long continued cold of the winter, for the peach buds, the most tender of all our hardy fruit buds, went through the winter all right. Besides, the mercury did not sink below zero but four times during the winter, and the lowest of these was, with me, five degrees. The results must then depend upon the condition in which the wood was found at the November freezing. The facts given above are notorious throughout the country. The conclusions are ours, and are worth just what any one may choose to give for them.

Since the above was written, we have seen a notice in the St. Louis *Republican* stating, that the apple and the peach crop in Missouri would be more abundant this year than for many years previous. There is certainly some mistake about the apple crop. The *Republican* admits a failure of the pear crop, and attributes the failure to *blight*. The failure of the pear crop was manifest long before the blight made its appearance. Indeed, the pear blight has not been so prevalent this season as it has been upon many other occasions.

Wine Making—Essentials of a Wine Grape.

BY DR. J. STAYMAN, LEAVENWORTH, KANSAS.

IN the manufacture of wine, like every other art, there are certain conditions to be observed if we expect to succeed. The most important of these are a proper proportion of sugar and acid in the grape, for without these no good wine can be made. This proportion has been very definitely determined by numerous experiments in testing the best wines made from sound grapes grown in the best seasons. Dr. Gall, a distinguished author, in his "Practical Guide for Wine Making," etc., has thrown more light upon this subject than perhaps any other writer. He says, "that wines, without exception, to be good, and of agreeable taste, must contain from four and a half to seven thousandths part of free acid." "In all circumstances, however, a little less acid than six and a half thousandths is better than a little over seven thousandths, and a little more than twenty-four per cent. better than a little less than twenty per cent. of sugar."

Although he has given the approximate proportions found in the best European wines, yet it is a sad mistake to think that the grapes which contain the greatest amount of sugar, as the Delaware and Norton's Virginia, will make the best wine, for neither equal the wine made from the thoroughly ripened Catawba which contains less sugar, yet it is considered the highest type of American wine. This fact is also admitted by Dr. Gall, who says: "It is at the present time conceded that the quality of wine generally depends not so much on a definite amount of alcohol (the proportion of sugar in the must), as on a certain moderate quantity of acid." But it should, however, be remembered that we cannot reduce or neutralize the excess of acid in our wines by the addition of sugar, neither can we increase their strength over twelve per cent. without the addition of alcohol. So all the acid, or whatever sugar over twenty-five per cent. is in our must, will remain as such in our wines, because they are not changed or decomposed by the vinous fermentation. Then this being the case, thoroughly ripened grapes will make the best wine, for as the sugar increases one per cent. by the grapes ripening, the acid diminishes about one-twentieth per cent. Therefore, facts and experience teach us that perfectly ripe grapes contain everything in the right proportion which are requisite to make the very best wines without any additions or alterations whatever. With these few introductory remarks upon the general principles of wine making, we shall now give the practical part:

If you have much wine to make, it is best to use large, strong casks, as it ferments better in large bodies, but if you have only a few hundred gallons to make, common, clean, sound barrels will do. Pick your grapes when ripe and only in dry weather, and when the dew is off, and as many at one time as will fill a cask; pick off all the decayed or green berries. If you wish to make white wine of your Concords in quantities of a barrel or less, run your grapes through a common hand cider mill, and press immediately until the must begins to color, then remove the half-pressed grapes and put them into an open barrel, and so continue mashing and pressing until your cask is full of must. The half-pressed grapes or mash in the open barrel should be covered with a blanket and left to remain from 24 to 48 hours

to ferment, according to the state of the weather, then thoroughly pressed and put into a separate cask to make red wine. If large quantities are made into white wine, the grapes may be put under a strong press without mashing, and pressed. Many black grapes can be made into white wine in this manner. It would be better to put some of the grape seed or racked stems into the must when fermenting, which would give the white wine more tannin.

If red wine is to be made, run the grapes through the mill and put them into open barrels or hogsheads, and let them ferment about two days before pressing; of course they should be covered over while fermenting. Fill your casks not quite full, and let them ferment over, which will cast off much unnecessary matter, but when the first violent fermentation is over, let the balance of the sediment settle in the barrel and not work over; place a sack of sand over the bung hole, or place the bung in slightly to keep out unnecessary air or foreign matter. As soon as it is done working (which can be easily told by placing your ear to the bung), drive the bung tight and let it remain until clear weather in December, then rack off. To produce a perfect fermentation, the temperature of the room should be kept up to the temperature of the must while it is working, but after it is done the temperature of a good cellar is the best. The casks should be kept full and the bungs air-tight. The second racking should take place in March, and if everything has been properly done and the grapes good, the wine will be clear, but it should not be bottled until the next fall, and then it is fit to sell. By the "air treatment" it is claimed to be fit to bottle or sell in a few months after the fermentation, but this we have not seen tried, and it has not come into general use, however good it may be.

As some may wish to make unfermented wine, we will give a few directions to show you how to do it. Press your grapes and let the must stand about six hours to settle some. Then draw off the clear, and heat it to about the boiling point and skim it. Then put it into wine bottles hot as you put up fruit, and seal it tight while hot, and keep it in a cellar. To put up the wine hot without breaking the bottles, fold a cloth several layers thick and wet it, and set the bottles on it while filling them with the hot wine.

About the Fig—Its Fecundation.

BY B. J. STAUFFER, LANCASTER, PA.

I WAS interested in the expression of the thoughts and suggestions of the editor of the *Plantation*, p. 116, as also in the account given by the letter written from Smyrna, p. 143, current volume of the *Pomologist*, about figs. And this opens a disputed question. The writer after informing us about the drying, packing and piling up the packed figs, says: "In two or three weeks afterward, the *fig worm* comes out—*one out of every fig*." The italics are mine. He continues: "A little white creature, who leaves his web behind him everywhere he goes, and he goes everywhere; into every crevice of wood-work or metal," etc., giving a graphic account of

the annoyance from a cargo of figs on shipboard, by these *fig worms*. This being so, it would seem that those who affirm that it was absolutely necessary that the intervention of an insect, or the artificial action of a straw was necessary to fecundate the fig, may not be mistaken after all. What is termed caprification, a fertilization of flowers by the aid of insects, a process which is thus stated by several writers: "It is performed by suspending by threads, above the cultivated figs, branches of the wild fig, which are full of a species of cynips. When the insect has become winged, it quits the wild figs and penetrates the cultivated ones." Some naturalists are of opinion that caprification is a very unnecessary process. Oliver terms it a "tribute which man pays to ignorance and prejudice." In many countries of the Levant he says it is not performed, nor is it done in France, Italy or Spain.

We must bear in mind, that the structure of the fig and its inflorescense is the reverse of ordinary fruit. The flowers are very small, unisexual, contained in great numbers in a common receptacle, which is fleshy on the outside, connivent at the summit, where it is almost closed by a series of little teeth; and the fact that the male or staminate flowers occupy the upper part of this receptacle in the interior of the fig, and the pistillate or female, which are the most numerous, occupy the bottom, and all the remaining part of the cavity; each ovary becomes a seed, surrounded with a pulp, which, together with the receptable, forms the fruit. It is also stated that the greatest part of the flowers prove abortive, both with and without the process of caprification.

But, a Smyrna letter-writer, says: "The worms come out—*one out of every fig*"—where do they come from? This can only be explained on the old notion (revived in later years), that a fly, a species of cynips, seeks its food by making its way through the upper portion of the open center, and in crowding down, carries the pollen with it, reveling in the juices, and depositing its egg—the puncture and hatching and feeding of the worm may tend to hasten in some degree the maturation of the fruit—while it is claimed on one side that it is essential to ensure fructification by dispersing the pollen, others deny, and declare that fecundation itself was not indispensably requisite to the swelling and ripening of figs. So, when the doctors disagree, and you have not the means at hand to test the matter for yourself, you must necessarily be in doubt. That the fig worm is the larva of a *cynips* or allied insect, there is no question, and if every fig has its worm, then it is evident that every fig was visited by the fly. He does not, nor will any one suppose, the worm came without an egg, or that the egg is a spontaneous growth in the fig without a parent. Hence, if the Smyrna writer is correct, the matter is settled. We know of several species of larvæ that leave their nidus to spin a cocoon and seek to enter a crevice to web up in, and undergo the final change to the perfect image. I notice in Thompson's Dictionary, that he says: "Figs when ripe, are, for the most part, dried in ovens to preserve them," and then packed very closely in the chests, drums and baskets. Another says, that in the South of France they dip the fruit in scalding hot lie, made from the ashes of the fig tree, and dried in the sun. The species grown in the Southern States are derived from the Levant, the *Ficus carica*—leaves 3-5-lobed—and no doubt could be made a profitable crop by judicious culture, as well as in Turkey.

The European Larch—Its Durability.

BY G. B. B. DENMARK, IOWA.

EDITOR WESTERN HORTICULTURIST:—I notice in the May number of the *Pomologist* an article from Prof. Mathews, on the European Larch, and as I have had a similar experience to his with this much lauded tree, I give it to you for what it is worth. Although our experience is the same, I do not arrive at the same conclusion that the Professor does, with regard to the durability of the timber, for I do not consider my experience a fair test in the case, neither do I believe all that is said in favor of the larch. There is no doubt but what the heart-wood will last a long time, but it will not do to say that the small twigs (which is nothing but sap wood) will last for years, when we know they will decay in one.

In the Spring of 1860, I imported a lot of European Larch from Scotland, and set them out in nursery rows two feet apart, intending to transplant them in a year or two, but leaving home next season and being gone several years, the larch grew up a perfect thicket, twelve to fifteen feet high. In 1867, on reading some of the fabulous accounts of the durability of the larch, and wishing for some vineyard stakes, I concluded to cut down my beautiful grove or thicket of larch and use them for that purpose, thinking I had got something that would last a life time; but lo! I was sadly disappointed, for only two years afterwards I found the stakes beginning to break off and decayed near the surface of the ground, so I concluded that the best use I could put them to, would be to burn them for stove wood; but here I was again disappointed, for I found that it required more kindling wood to get them on fire than they were worth. Since then I have seen it stated that in Europe it was considered almost fire-proof and was used for the decks of vessels on that account. Now, if it contains such an amount of resinous matter as some say it does, why will it not burn? That it does not contain much resinous matter grown in this country is certain, but that it is not durable on that account does not necessarily follow, for we find the red cedar, the most durable of all wood, contains little or none of this property. We also find that the sap wood of the red cedar decays very easily, and that it is the heart-wood that lasts so long. So I think we shall find it the same with the larch, and we should not be too hasty in condemning it, judging from the experiment we have made with nothing but saplings, only three or four inches in diameter.

I think if Professor Mathews will examine the poles he has used for stakes, that he will find that they are nothing but sap wood, and in order to arrive at some positive proof in this important case, I hope the Professor will cut down some of his largest trees and use the heart-wood, and then give us the results. By so doing he will confer a great benefit upon thousands who are now looking to the larch for a lasting timber tree. And here let me say, that I think that it is the province of our Agricultural College to experiment upon and decide just such questions as these. As the question now stands with regard to the larch grown in this country, it is certain that the poles or saplings are not durable, and the next thing to be decided is, whether *any* of the wood is durable or not. Until this is decided, I think we had better go rather slow in planting this tree, or at least, in recommending it for its durability.

Adaptation of Fruits to Localities.

OUR climate is so diversified from the effects of ocean winds in some localities, and extreme altitude in others, that no other State of the Union can ever attain to the production of that infinite variety of the vegetable kingdom that pertains to California. The proper adaptation of fruits and vegetables to localities the most congenial to their perfect development and maturity, is here a subject of the first importance to the pomologist and horticulturist.

Our southern valleys are very nearly tropical, producing the orange, lemon, pomegranate, and the olive; the more central or middle valleys, half tropical, or with all the summer heat of the extreme south, but liable to occasional light frosts during the winter and early spring months; whilst in the extreme north, we have the New England winter, with all its fitful antics of cloud, rain, snow and sunshine commingled, and yet a summer of great heat.

Effects of Altitude

But it is not altogether our great latitudinal extent that gives us our wonderful variety of climates, with all their diversified and apparently anomalous productions. Altitude above the sea, plays its freaks upon the vegetation in so remarkable a manner, as to set at naught all our preconceived notions that altitude, north or south, must govern us in our choice of localities, for the successful propagation of the particular products we may have resolved to engage in.

Take the proper altitude, and the fruits of the Atlantic States are the same fruits here; but grow the autumn apples of the east in our lower valleys, and they are simply summer fruits, whilst the Newtown pippin, Baldwin and Roxburry russet, their latest keeping winter apples, are found ripening with us in early or wid-winter.

Thus whilst one orchardist is growing these and other fruits in the valleys for autumn use, another whose home is in the mountains, in some elevated valley, or on a plateau of the foothills, is growing precisely the same fruits for winter and spring use, and yet within fifty miles of each other.

The wild strawberry ripens in the vicinity of San Francisco, under the cool ocean breeze, in April and May; the same variety, in Strawberry Valley and other valleys in the vicinity of Lake Tahoe, from the first to the middle of August.

The Reverse of Altitude.

Wild plums and apricots, ripening upon the mountain plateaus, where they are indigenous, if brought to the tropical warmth of the lower valleys, are found to have their fruiting season hastened nearly six weeks, but with no improvement in flavor, though somewhat increased in size. The same effect of early maturity upon the blackberry and other mountain products are observable when transferred to the warmer lower valleys.

With these facts as data, the fruit grower can choose his locality, with reference to the kinds and qualities of the fruits he would produce, with much certainty, and no time need be lost in testing or experimenting with localities.—*Rural Pacific Press*,

To Develop Cauliflowers.

D. BURY, in *Field*, says: "There are one or two simple means of bringing out the best qualities of the cauliflower that may be worth nothing here. It is needless to dwell upon the desirability of placing the crop in rich, deep, sweet soil. There are few plants that take more out of the ground in a given time than cauliflower; hence the obvious necessity of storing it well; for a stoppage of growth arising from a scarcity of food or any other cause is simply ruin—that is, bitterness, hardness, worthlessness—to this most valuable crop. But it is of surface help that I now write. The first and best is a surface layer of fine barnyard manure six inches thick over the whole of the ground occupied by the cauliflower, or, if this is impracticable, then half a barrow load to every five plants when the hand lights are lifted or taken off.

The effect of such dressing is wonderful; one can almost see the plants grow. The leaves seem to drink in the volatile ammonia, and the roots soon find their way into this new surface larder; the crowns fill in and swell out with amazing rapidity; and this dispatch is the great secret of high quality. There is another way of aiding and quickening growth, especially during dry weather. Lay the mulching of dung on as before, and wash it down with house sewage. This last is also a great service by itself, and for pouring over spent hotbed manure, leaves or other matters that have little strength of themselves. These mulchings are useful to keep out the drouth and encourage the roots upwards. The sewage will feed this well, and it seems to be absorbed and converted with wonderful rapidity by this crop. No one who values sweet and crisp cauliflower should waste a drop of sewage; it is one of the most powerful and best of manures for this crop. If sewage is not come-at-able—although with proper arrangements it is accessible everywhere—any kind of liquid manure will answer the same purpose. None should be dropped on the leaves, and of course no one would allow any sort of manure water to wet the hearts of the plants.

There is one more feature about this crop that deserves a passing notice. As a rule, as soon as cauliflowers are cut, the stems are pulled up and thrown away. With early, highly fed plants, this is a great and reckless sacrifice of growing force. Plants treated as I have recommended have roots like trees—huge masses filling the soil in all directions. Why should these not be pressed into the production of a second crop? To this end, simply cut the cauliflower with the usual complement of overlapping leaves; leave all the other leaves on the stem for a week or two. By that time most of the stems will have broken into from three to six shoots. Go over them and choose from two to four of the best placed and strongest; three to each is a capital average. Remove or bend down any leaves that interfere with these advancing growth, and also any decaying or old worn-out leaves; allow all others to remain. Give the stems several good soakings of manure water, and another layer of dung if thought desirable; and in an amazingly short period of time another crop, perhaps as heavy—or heavier in the gross—as the first, may be cut from the old stalks. After having done this double service, away with them, and see that the ground is immediately deep trenched or manured for strawberries, or some crop as different as may be from cauliflowers, of which, notwithstanding all our feeding, it will have had enough for a year or two."

How Can I Settle the Wine?

I HAVE a jug holding two to three gallons of Concord grape wine, made last fall; it is the pure juice of the grape, thoroughly ripened, with three pounds of white coffee sugar added per gallon. To the taste the wine is very fine, but it is about as turbid now as when made. How can it be made clear? May it be drawn off into bottles without detriment to the quality? "NOVICE," *Council Bluffs, Iowa.*

REMARKS.—Our knowledge of wine-making being very limited, the above queries were referred to our old associate, Dr. J. Stayman, who says in reply:

We now say that your wine was not properly made, for if your Concord grapes were, as you say, "thoroughly ripened," the must should have contained about eighteen per cent of sugar, which, when fermented, would have given nine per cent of alcohol, which is sufficient to make a good wine. Under those conditions, it was unnecessary to add any more sugar to your must unless you wished to make it stronger in alcohol, which was inexpedient. The adding of three pounds of sugar to the gallon of must, was twenty-one per cent more than could be fermented, so your wine now holds, in solution, over two pounds and a half of sugar to the gallon, which, from its nature, holds, in solution, a part of the lees of the wine, which makes the wine turbid or cloudy, as sugar or gum added to ink keeps it from settling. The only remedy you now have left to make a passable wine out of yours is, to add an equal amount of pure water to it and let it ferment again and convert the balance of sugar into alcohol; then it ought to become clear.

Or, a better plan would be, to wait until your Concord grapes are ripe, then mash up a sufficient quantity of the grapes to make ten times as much must as you have wine, then add your wine to the mash and stir it up well and let it remain three days, then press out and let it work without the addition of either sugar or water. Then, after it is done working, bung up tight and let it remain until February, then rack off, then bung up again; if not clear, rack again last of March or beginning of April. Then it should stand well filled up until the next fall before bottling. Wine should always be clear before it is bottled, and then it will remain so; if cloudy, it will not be as good bottled as in the cask.

You can, if you wish, bottle your wine as it is, without any detriment, but we do not think it would improve it much. And to those who prefer wine so strong in alcohol and sugar, they might keep it in that way; but we can give you no method to clear it when it is turbid. Wine can be made containing that much alcohol and sugar, and be clear, but not by that method. ASSOCIATE EDITOR.

FRUIT IN S. E. MINNESOTA.—The apple crop is going to be good in this locality. The orchards here are mostly young—just coming into bearing, but there are a few orchards planted eight or ten years ago that are now bearing full. My own young orchard of Ben Davis and Saxton—four years old only—from the graft, hold a few fine specimens of apples. Of Strawberries we had a good crop. Blackberries and Black Cap Raspberries not heavy. No appearance of apple or pear tree blight as yet.

I. INGMUNDS,

Le Roy, Minn., July 12, 1872.

The Strawberry Sorts and Behavior.

WE are just in the height now of our strawberry season, and I will tell you of the behavior of a few varieties.

Seth Boyden.—Growth strong and healthy, making abundance of runners; fruit not very large, or in any way very desirable.

Green Prolific.—Enormous growth of foliage, of rich dark green color, moderately productive; fruit very soft and not of superior quality.

Wilson.—Fair crop, uneatable.

Russell's Prolific.—A strong grower, very hardy, a great bearer; fruit large, too soft for market, unsurpassed for family use, for it excels all other varieties in its genuine wild strawberry flavor, with just a hint of pineapple; requires to be planted with a staminate variety to give large crops.

President Wilder.—Rather a dwarf grower, requiring rich, moist ground and good culture, foliage healthy; fruit abundant, large, good form, good quality, on rather short weak stalks; fruit firm, and will keep several days, desirable for careful cultivators; will not bear neglect, and fights grass like Green Prolific.

Jucunda.—Foliage and plants will not endure the sun, and is a poor grower and poorer bearer on prairie soil; said to do better on heavy clay.

Brooklyn Scarlet.—After some ten years trial we have concluded to give it up, too poor a grower, seldom bears well, too small; flavor good, and parts readily from the hull, which renders it easily prepared for use.

All kinds seem to have done their best this year, and though late, the crop has been very fine in quality and quantity. DUDLEY W. ADAMS.

Wauken, Iowa, June 29.

Mountain Ash Root for the Pear.

I HAVE read, with a good deal of interest, the discussion of this question of working the pear upon the European Mountain Ash, between Mr. Wier, Mr. Matthews and others, in the *Pomologist & Gardener.* In one of Mr. Wier's communications he says:

"I had intended only to recommend grafting the pear on sizeable *lateral* roots of the Mountain Ash; I do not, nor cannot recommend working it in any other way on this root; I have not tried top-grafting, therefore know nothing about it—have tried budding on seedlings, and find that some varieties grow finely and make splendid trees; others grow well the first season and die the next; other varieties refuse to grow at all; but when root-grafted on lateral roots, and even very short pieces of roots, all kinds, so far as tried, grow as well as the best apple-root grafts, and make a large growth the first season; *and if we so wish it*, the trees are all on pear roots at *three years of age*, by the cion throwing out roots of its own—and what better root can we have for a standard pear tree, than *its own natural roots*? But I still insist that the Mountain Ash root is a better bottom for the pear than any pear root, on some soils, and especially for the extreme north."

Will Mr. Wier tell us *what* "varieties grow finely and make splendid trees," and to what age such made trees have attained within his observation? Will Mr. Wier also tell us on *what* kind of soils the "Mountain Ash root is a better bottom for the pear than any pear root?" J. STEIN.

Washington Co., Iowa.

Editorial Notes.

Should Agricultural Journals have Horticultural Departments?

Of course. Why not? The idea of a true American farm paper, now-a-days, is to contain to a greater or less degree every kind of information which pertains to the cultivation of the soil. Horticulture, therefore, forms a very proper department for an agricultural journal. The modern idea of an exclusively horticultural journal is that it shall both be *more* thoroughly devoted to horticultural and rural embellishment, but in *better and abler style.* The failure of so many horticultural journals in the past five years is due primarily to want of support, because most who were interested in horticultural topics already took agricultural journals and were satisfied with what information they found in them of this character. They did not need or care to look further. This fact, then, shows how difficult to build up a successful horticultural journal when the field is so bare and this class of readers so difficult to get.

Secondarily. Most horticultural journals failed because of want of the right kind of ability, and lack of *variety* of information. Could we take a horticultural journal and give to it the same variety of contents which are now the *forte* of agricultural newspapers, they would be much more successful; but we suppose they would be criticised as stepping out of their proper field. If it is proper for agricultural journals to have horticultural departments, will it not also be proper for horticultural journals to have other topics introduced? In our opinion the cause of success in our agricultural journals is due, not so much to the interest in agricultural topics alone, as the fact that they take so strong a hold of the *family element.* The main idea of the editor is to have something entertaining to all members of the home circle. Could horticultural journals have the same element, they, too, would have the same success.

Perhaps one reason of the continuous life and public good-will toward THE HORTICULTURIST is due to the *variety* of topics it discusses. It is not fruit alone which fills its pages, but rural architecture, garden decorations, flowers, gardening, and other topics of rustic art.

Our brethren of the agricultural press who are much disposed to judge of the value of a journal by its number of subscribers (the bigger, of course in their opinion the more interesting), must remember that one reason why our horticultural journals are not more successful is because they themselves have stepped over into our field and culled most of our readers away. They should be more charitable. Had we more income we would be better and abler and handsomer than we are. But can you not give us credit for what we try to do? A good and praiseworthy spirit actuates us horticultural editors and writers, and this should secure for us sympathy, not criticism.

The Ives Grape.

In our opinion the Ives promises to be a more valuable grape for an early market than the Concord. Last year, upon our place, it was nearly two weeks ahead of the

Concord in ripening, and is said by the commission dealers to have carried splendidly to market, sold well, and was universally liked. Everything depends upon the location of the grower. If he is south of his market, early grapes will pay better than late ones; if north of his market, late grapes will do better than earlier ones. This rule will hold good for almost all markets, and all kinds of fruit.

Mulching.

We have contended for the practice of mulching, fiercely, for the past five years, and every year doubles our appreciation of its excellencies, and judgment that it is an absolute necessity in fruit culture. One fact must be remembered, that when once begun it *must be continued*, and permanent mulching is of more value than periodical or temporary. A Wisconsin fruit grower, who mulched mostly with manure, says that while it does protect the roots as long as it is on them, yet it has a tendency to bring them out to the surface, and should there be any neglect, these roots are sure to be frozen. He finds his best plan to be to mulch heavily for two or three years, then stir the ground one year, working the soil up toward the tree. We should judge even this one ploughing would damage the roots, although we can see a partial benefit in removing the mulching and aerating the soil.

Mulching Apple Orchards.

This subject naturally calls up the experience of Capt. Pierce, of Arlington, Mass., who has a small and very profitable orchard of apple trees. The owner does not believe that orchards can flourish in grass, and keeps the ground mulched or spaded. The orchard covers between four and five acres, and contains 86 trees. Of late years the crop has brought an average of $800 a year, besides the vegetables grown between the trees—which must stand so as to afford ample space, with about 20 trees to the acre. The mulching is done with swamp hay, of which he employed six tons the past season. We suppose the whole surface is not mulched, but only the part nearest the trees, or between the rows of vegetables. The trees are kept trained in a handsome symmetrical form, presenting, we are told, "beautifully and most symmetrically spreading boughs, many of them seeming to realize the ideal of perfectly formed apple trees." He shows a Baldwin tree near his house that has produced fourteen barrels of apples in a year, which is deemed the handsomest apple tree ever seen.

The *Country Gentleman*, following up the subject with some remarks, says:

"Capt. Pierce adopts a mode of pruning which obviates the peculiar difficulties resulting from winter and summer pruning, and combining the advantages of both. It is well known that pruning in late autumn, winter, or early spring, when the leaves are off, favors the growth and does not check the tree, but the wounds do not heal so well when the work is done at this time. Summer or early June pruning favors healing but retards growth. Capt. Pierce removes the surplus wood in autumn, leaving stumps a few inches long. Early the following June he cuts off these stumps closely with a sharp saw, and the wounds heal rapidly."

The Paulownia Imperialis.

The thrifty, rapid growth of this tree, adapts it pre-eminently to city use. A tree or two here and there upon the lawn are permissible, but there is not the elegancy of outline and growth of foliage, which should keep it in favor with landscape gardeners.

A Pennsylvania reader of the *Country Gentleman* writes to that journal an enthusiastic description of a tree growing near his village, Raleigh: This tree is ten years old; two feet in diameter at the height of two feet from the ground, and I estimate its height to be fifty feet. It has bloomed seven seasons, each year multiplying the number of its magnificent trusses of flower buds, till at present there are I think on it now not less than a thousand of these miniature trees of from 100 to 200 buds. One of these I send you, with the stem and also a fragment of the seed cluster. I also succeeded in finding a pod from which the seed had not yet dropped, which I enclose. The trusses of buds for each season's blooming are formed in the growth

of the previous season, and after the leaves are shed in the autumn, present a very unique and ornamental appearance through the winter. I did not know it could be propagated from seed, but am glad to know that it can be Imagine a tree fifty feet high, with a large spreading top, covered with a thousand of such trusses as I send you, each bud burst into a bloom as large and delicate as a sweet-pea or pansy, making it a blaze of beauty, and loading the air for several hundred feet distant with its delicious, overpowering fragrance, and you have an idea of the Paulownia Imperialis.

How they Raise Peaches in Delaware.

The Delaware Peninsula produces more fruit than any similar section in the world. It is estimated that the receipts from her fruit products are not far from $3,000,000 yearly. The freight traffic alone is worth $500,000. A committee of one of the New Jersey Agricultural Societies, having visited Delaware last year, made a report, and the following is condensed from it, showing what is necessary to make peach culture successful: 1. To prepare thoroughly, clear and enrich the soil for planting. 2. To give plenty of room, or plant twenty-five or thirty feet apart. 3. Not to shorten in the branches. 4. To do a great deal of work among the trees—plowing, harrowing, cultivating, allowing no grass or weeds. 5. To hunt the borers once a year, in autumn. 6. No raising corn and potatoes except the first three years in the orchard, and then only provided fertilizers are applied. 7. After the third year to plant nothing, but cultivate thoroughly.

The thorough cultivation was believed by owners to keep the curculios within bound, and so rapid was the growth imparted to the trees, that orchards only four years old had trees with heads twenty feet in diameter and fifteen feet high. The cultivators are broad, reaching nearly half way from row to row, and doing work rapidly.

The varieties preferred are Troth's Early, Early York, Stump the World, Crawford's Early, Old Mixon Free and Crawford's Late. Hale's Early has failed from its liability to rot.

Good Old Mrs. Pollock.

We doubt if anything has yet been found more satisfactory than the old Mrs. Pollock Geranium, and we quote with pleasure the remarks of W. C. Barry from *Our Rural Home*. "Among the many novelties and so-called novelties introduced within the past few years, none has taken a more prominent place or been more widely disseminated than the now well-known tri-color-leaved Geranium, Mrs. Pollock. It was first offered for sale in Europe in 1864, and for a number of years after commanded great prices. Only lately has it been extensively propagated in this country, and now costs but a trifle more than other geraniums. It is much esteemed as a pot-plant, and in many places has succeeded admirably when bedded out. During the winter months, under proper management, its gay and brilliant colored foliage tends greatly to beautify the conservatory, and in summer where it thrives it is one of the most useful and ornamental of bedding plants. In England it is one of the most popular plants for edgings, borders and marginal circles. In most localities in this country it does not thrive on account of our hot sun—hence can be prized only for pot culture. Since it was first brought to notice many other varieties, such as Lucy Grieve, Sunset, Monitor, Meteor, all of which possess more brilliantly marked foliage, have been introduced. All of these varieties, however, lack thriftiness of habit, and Mrs. Pollock being a good grower, still holds the first place among the tri-colors. Much has been said concerning its culture. We have found it to flourish in any light, rich, well drained soil. The plants should have an abundance of light, and not too much water. Two or three plants grown in a large pot form a beautiful ornament for the parlor or sitting-room."

Arbor Day.

A good step in tree planting has been taken by the State of Nebraska. Premiums for tree planting are offered, not money only, but good agricultural books. For

instance, a special premium of one hundred dollars is given to the County Agricultural Society of that county in Nebraska, which shall upon that day plant properly the largest number of trees; and a farm library of $25 worth of books, to that person who shall plant properly on that day the greatest number of trees.

In addition to this consecration of a new holiday, the Board offers premiums of $60 for the best, and $30 for the second best five or more acres of planted forest trees.

A Good Idea.

The last catalogue of J. S. Downer, Fairview, Ky., contains a handsome steel plate engraving. This is an excellent idea, as it brings directly before the public the faces of our most popular and esteemed horticulturists. The engraving is very handsome.

Los Angelos Walnuts.

The culture of almonds, walnuts, etc, is now quite extensive in Southern California. The *Pacific Rural Press* says the first English walnuts were planted in Los Angelos county in 1857. They commenced bearing in three years, the crop increasing every year. In the year 1863 the crop amounted to 9,200 pounds. Previous to 1850 the walnuts used in California were all imported from China and Chili to the amount of nearly 30,000 pounds annually.

The flavor of the walnuts raised in Los Angelos is finer than that of the imported nuts. Near San Gabriel, or the Gabriel Mission, the walnut tree is found of larger size and bearing the best of nuts. These trees were set out by the missionaries. Los Angelos county supplies a large demand for walnuts, and as Southern California becomes more settled, walnut trees will be grown more extensively, adding an increased source of wealth to this delightful portion of our State.

Lawn Sand.

By the use of sand upon the lawn, it is said that not only weeds can be destroyed, but the color and vigor of the grass very materially enhanced. One English gardener, who used it for two years, was previously very much troubled with Plantains and Daisies. In the center of each of these nuisances he placed a thimbleful of the sand, and in about five days there was only a brown patch, the weeds being entirely destroyed; and more wonderful still, the brown patch, in a fortnight more, was covered with a luxuriant growth of fresh, healthy grass. The only drawback is that the grass is rather coarse where the sand is used. The best results are said to come from the application of four ounces to the square yard.

That Model Potato.

More fun has happened to the agricultural public from the publication of this book (The Model Potato, by R. McLaurin and R. T. Trall) than anything we remember in late years. Two doctors write a book on potato growing, hybridizing, etc. Before the reader gets through, he finds one doctor cannot restrain his desire to mention his Home for Invalids. The other indulges in specific directions for wide planting of potatoes as a remedy against the rot, and something about subsoiling we cannot understand. We have yet to see how the running of a double mould board plow, one foot wide, at weeding time, between each row, for two consecutive years, is to result in thorough *subsoiling*.

Clematis.

The success of Mr. Jackman's new Clematis has been so great that it is now stated there will soon be issued a book upon this subject. The ex-Empress of the French, Queen Eugenie, was lately a visitor at the garden.

Another New Pea.

It seems that Mr. Laxton's new Peas are receiving high approbation in England, and have fair promise of supplanting many of the old and well-known kinds. The *Journal of Horticulture says:* "The great merit of these new varieties is that they possess qualities far superior to the old ones, with every stage of earliness."

Mr. Laxton has lately brought out another new variety, named Dr. Hogg. The plant grows about four feet in height. The stem is well covered with pods, which number from nine to ten. These are four inches long, and over three-fourths of an inch wide, of dark blue green, containing nine very large peas, which are of a deep green color. It is said to be thirteen days earlier than the old *Ne Plus Ultra.*

Solanum Warcewiczii.

This is mentioned by foreign horticultural journals as one of the very best kinds of ornamental plants for out-door decorations in the summer months, its bold and deeply indented leaves making it a striking object in the sub-tropical garden. This handsome species of a large and exceedingly diversified genus, is remarkable for its robustness and branching habit, and bold pinnatified leaves.

Plant it in the shelter of neighboring trees or shrubs, where it may be free from either cold or violent winds.

Plaster on Strawberries—Good Results.

We mentioned a month or two since an instance of successful use of plaster on strawberry beds, which increased the yield very materially, and now we notice again the remarks of a correspondent of the Farmers' Club, N. Y., who gives his experience as follows:

"During the spring of 1868, I set 35 rods of land with strawberries of the Wilson's Albany variety, rows running north and south, three feet apart, and plants one foot apart in the row. Cultivated thoroughly during the summer with horse cultivator and hand hoe, and kept strictly free from runners. During the growing season the plants received three applications of Grand Rapids, Michigan, plaster. They made an extraordinary growth, and early in December were covered with four inches of wheat straw, for winter protection. When growth began the following spring the straw was parted immediately over the row sufficiently to allow the plants to make their way through it, and thus left to the end of fruiting.

The season proved one of frequent and timely rains, and the actual measured yield of fruit amounted to 37½ bushels, the surplus of which sold readily in the garden at 18 and 20 cents per quart by the crate, while dealers generally found difficulty in retailing their berries at 15 cents per box or quart. I did not at the time attribute the (for this vicinity) unusual yield to the use of plaster, but as I have not since used it, and my crops have amounted to only one-fifth, and this season, from plants treated in exactly the same manner, with the exception of the use of plaster, to only one-seventh that amount, I am of the opinion that its use does not promote barrenness, but that it gives increased vigor and strength to the entire structure of the plant, thereby greatly increasing the yield and quality of the fruit."

The Larch Question.

The query raised by Prof. Matthews, of Iowa, as to the durability of the Larch, is a topic of vital interest to the West. His remarks, originally published in *The Western Pomologist*, have occasioned considerable discussion, but we are still far from any definite light. He thinks that the Larch grown upon the rich prairies of the West will not prove durable, and quotes an instance of his own experience. In 1869 he cut down several trees, and prepared them for grape stakes, setting them about the first of May. In April, 1872, he examined them, and found every one so decayed as to fall or break off with the slightest pressure.

Professor M. states that the tree's durability seems to depend upon the resinous matter or turpentine it contains, and its peculiar texture. Were it not for these, he presumes it would have no claims upon public attention for resisting exposure to water, or the ordinary inclemency of the seasons. Quotation is made from authorities who indicate that it undergoes great changes by being grown in different climates, localities and soils. In its most northern habitations, it only forms a low, trailing shrub, while in its most favored home upon the Alpine Hills and other con-

genial locations, it grows to 100 feet and upward in height. In a circular published by Mr. E. Y. Teas, on this subject in 1869, he says: "In Savoy, according to a French writer, houses are built of larch logs, squared and placed one upon another, in the style of our American log houses. The heat of the sun melts the resin contained in the logs, and the structure thus rendered impervious to air and moisture, will last for centuries. In some parts of France houses are now standing that have been built 250 years, and still show no signs of decay, the great amount of resinous matter rendering the wood imperishable, and on this account it will outlast the Red Cedar. There seems to be well authenticated instances in Europe in which Larch timber, having been in use 1,000 years, still remains sound."

Our impressions of the Larch, as gained from some specimens shown by Mr. Douglass, were somewhat favorable as to its growth; but, we feared, at the sacrifice of solidity, fineness of grain. We remember now the wood possessed little resinous quality. But does this alone determine the value of a timber tree? We believe not. We think the higher the altitude the better will be the quality of the wood.

Salt on Fruit Trees.

Last year it will be remembered considerable publicity was given to the fact that salt had been used in the pear nurseries of Geneva, N. Y., with admirable success in the prevention of blight. The annual application was from 300 to 600 *pounds* per acre. Some of our exchanges quoted *bushels*, which is wrong.

We now see it stated that a prominent nurseryman and fruit-grower near Leavenworth, Kansas, applied a dressing of salt to a large orchard of budded *peach* trees, at the rate of three bushels to each 200 trees, a year ago last Spring. The trees seemed to thrive last year, and the past Spring he applied another dressing of the salt, digging down slightly to the bottom of the tree.

The editor of the *Kansas Farmer*, visiting the orchard about July 1, found it well set with fruit, but every tree dying, the probabilities being that every tree will not have vitality enough left to mature the fruit now on them.

We would not have advised the application of salt on peach trees, pear trees being the only ones for which it is specially recommended. If specific manures are to be used for fruit trees, we can recommend only three reliable articles, *lime*, *potash*, *phosphates*. None of these do any harm unless in excess.

Ink for Zinc Labels.

A correspondent of the *Country Gentleman* recommends the following as an ink for zinc only, that will endure for years, cuts slightly into the metal, has a black color, and is as legible after a dozen years as when newly written: "Take one part verdigris, one part salammoniac, half part lampblack, and ten parts of water; mix well, and keep in a bottle with glass stopper; shake the ink before using it. It will keep any length of time. Write it on the label with a steel pen not too fine pointed. It dries in the course of a minute or two."

Bad Effects of Summer Pruning.

Geo. Husmann of Mo. says: "In Summer pruning we take little stock; close pruning in the Winter is bad, but Summer pruning, or what is practiced in its stead, foliage murdering—is an absolute iniquity. Give plenty of scope to the vine; use no unnatural checks, and health, fruitfulness and longevity will be the result."

A New Bedding Plant.

A. S. Fuller is experimenting with a new bedding plant, called *Amorphophallus Rivieri*—a plant of recent introduction into European gardens, and unknown here until the present season. I planted the tuber in a pot, but it did not give any signs of growth until about four weeks since, when a stem fully one inch in diameter appeared, and has continued to grow until the present time. The plant is now about eighteen inches high, with a columnar-shaped stem, crowned with three large leaves, each divided and subdivided into many ovate somewhat lanecolate leaflets; stem and leaf stalks are of a dark green color, spotted with light gray, the leaflets being a dark glossy green, without any markings. The plant, as a whole, is decidedly

unique, if not what would be called really handsome. It is probably a near relative of our common Indian Turnip, *Arisæma triphyllum.*

A Showy Bed of Begonias.

Mr. Fuller also speaks of a good success he has had this year with some Begonias: Begonias are beautiful ornamental leaf plants, if well grown, and a few of them produce very showy flowers. I have tried them for several years in the open border, as well as in baskets, with very poor success, and this season I concluded not to remove them from the greenhouse, but plunge the pots in sand on one of the side stages. The result is entirely satisfactory, and all the species and varieties are as beautiful at this time as I could wish. They seem to require a high temperature and moist atmosphere to insure a full development of foliage. The old Begonia rex is one of the most showy of the large leaved species, but the smaller and more brilliant colored sorts help to fill up and give a diversified appearance to a group of these very interesting plants. They are suitable for window culture in summer, being seldom attacked by insects.

More Good Work in Tree Planting.

One would suppose that the State of Maine, with all its wealth of forest trees and thousands of acres of timber still uncut, would be the last to feel any interest in tree planting. But it seems that the citizens of the old pine tree State are really alarmed at the rapid destruction of their trees, and the last Legislature has passed the following act of encouragement: "That any landholder in this State who shall plant or set apart any cleared lands, or lands from which the primitive forest shall have been removed, for the growth and production of forest trees, within ten years after the passage of this act, and shall successfully grow and cultivate the same for three years, the trees being not less in number than two thousand on each acre, and well distributed over the same, then on application of the owner or occupant of such lands to the assessors of the town in which the same is situated, and is so successfully cultivated or set apart to forest trees, and at the time of such application shall file with said assessors a correct plat of such lands, with description of their location, and setting forth all the facts in relation to the growth and cultivation of said grove of trees, or incipient forest, the same shall be exempt from taxation for twenty years thereafter; provided such grove or plantation of trees shall, during that period be kept alive and in a thriving condition."

Ferns for Baskets.

The following Maiden Hair Ferns are mentioned as excellent plants for hanging or standard baskets: *Adiantum caudatum*, *A. assimile*, and *A. Farleyense.* The best kinds of *Davallias* for baskets are *bullata*, *dissecta*, and *pentaphylla. Nephrolepis exaltata* and *pectinata* both look well when suspended, but are not so good for a basket as *N. tuberosa. Platyloma flexuosum*, *Doodia lunulata*, *Asplenium flabellifolium*, *Pteris scaberula;* all the species of *Drynaria* and *Nyphobolus* are excellent basket ferns.

Early Pears.

Dr. Swazey, of La., thinks that the Early Catharine is the best early pear, ripening at a time when there are few pears of any kind in the market. The Madeleine blights too much; he will never plant another tree of it.

The Osband's Summer is a fine tree and good bearer; does not come into bearing very early; does not bear very profusely at first, but the fruit is large, good and handsome. It has another valuable property, that of *late blooming*, thus always escaping injury from late blasts.

Southern Fruit Trees.

Testimony seems to point strongly to the fact that *young winter apple* trees, grown in the Southern nurseries and transplanted to Southern fruit farms, are hardier, safer and produce better quality of fruit than the young trees brought from Northern States. In the case of the pear, the truth is right the reverse, for we find Northern grown trees are much the best and thrifty. Southern apple trees carried to latitudes a few degrees further North, produce better fruit than those raised in same locality.

Best Garden Peas.

C. W. Murtfeldt, of St. Louis, says he has found the following best from his experience: If I were asked to-day what varieties do you recommend as the best and that come in succession? I would answer (and allow me to remark that for the last eight years I have taken great pleasure in cultivating many sorts); Carter's first crop, Dan O'Rourke, Caractacus, McLean's Little Gem, Champion of England, Blue Imperial and Black-Eyed Marrowfat. I hope to be able to report favorable also on the Climax.

I would not hesitate to plant either the Philadelphia extra early, the Dan O'Rourke or the Prince Albert, as a very early sort. When raised for market, of course the earliest kinds fill a specific place. In quality, the wrinkly peas are generally superior to the smooth. For a great yield and late market, and as *the* pea that "fills up," the black-eyed marrowfat is highly esteemed. For a family garden I would choose those first named under this head, and when planted at nearly the same time, or even the same day, they will furnish a succession of a month's duration or longer, and then the appetite will better appreciate something else.

Railway Gardens.

A good step has been taken in tree planting by the Michigan Central Railroad, who commenced last season setting a row of American chestnut on each side of their track. It is stated that the Northern Pacific Railway will shortly adopt some such course. Their industrial agent is already experimenting with many varieties of evergreens and deciduous trees, to determine which will succeed best on the plains.

The Grape Vine

Said to have been planted on Roanoke Island by Sir Walter Raleigh, and still bearing the name of the "Raleigh vine," covers an acre of land, and produced in 1870 wine valued at $3,000. A vine in New Hampshire, by no means as large, but yet of an enormous size, is said to produce from $250 to $350 worth of grapes annually.

Profits on Small Fruits in Minnesota.

A Winona, Minn., small fruit-grower, shipped 20,000 quarts of Strawberries and Raspberries this year.

What We Know About Turnips,

Is a pretty little pamphlet by David Landreth & Son, of Philadelphia, upon their experience in Turnips. As Mr. Landreth always can be depended upon for perfect reliability in words as well as seeds, it can be considered more than equal in value to that other famous volume, "What I Know About Farming," about which there is yet some question what the author does know.

Pear Blight.

Pres. Ohmer, of the Mont. Co. Horticultural Society, when the subject of Pear Blight came up recently for discussion, said his experience had taught him that the most thrifty trees were the first attacked, such as the Vicar of Wakefield and the Lawrence. The Seckel and Tyson seemed to escape altogether, and the Bartlett stands well. His remedy was, after five or six years cultivation, to sow clover in the orchard—grass was too thick, and prevented the air from getting to the roots.

Paulownia Imperialis.

The same society report the "Paulownia Imperialis," advertised extensively by C. C. Cooley, Manchester, Ohio, at $1.50 per tree, was introduced and planted here by the late J. G. Phillips, many years since, and grew vigorously every summer, and was killed to the ground every winter, until it finally disappeared. As grown by Mr. Cooley, on an island in the Ohio river, the temperature may be so modified by surrounding water and two degrees more southern latitude, that it is not winter-killed. There was a large, blooming tree in the Sayer Nursery, near Cincinnati, some four or five years since; but the tree is sold by Eastern nurseries at the ordinary price of common ornamental trees, 50 and 60 cents each. They consider it an imposition to sell it at such high prices.

WALDEMERE, RESIDENCE OF P. T. BARNUM, BRIDGEPORT, CONN.